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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,603	03/23/2004	Matthew A. Davies	UNCC 02-021	2465
7590		04/28/2009	EXAMINER	
J. Steven Gardner Kilpatrick Stockton LLP 1001 West Fourth Street Winston-Salem, NC 27101			HONG, JOHN C	
			ART UNIT	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/806,603	<b>Applicant(s)</b> DAVIES ET AL.
	<b>Examiner</b> JOHN C. HONG	<b>Art Unit</b> 3726

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 22 December 2008.

2a) This action is FINAL.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 15,16,20-23,32-34,40 and 42-51 is/are pending in the application.

4a) Of the above claim(s) 42 and 51 is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 15,16,20-23,32-34,40 and 43-50 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_

5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election with traverse of claims 15-16,30-23,32-34,38-40 and 43-50 in the reply filed on 12/22/08 is acknowledged. The traversal is on the ground(s) that examining all the claims would not prove unduly burdensome. This is not found persuasive because Examining two different species is burdensome to the Examiner.

The requirement is still deemed proper and is therefore made FINAL.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2 **Claims 15,16,21,22,32-34,38,39,43-50** are rejected under 35 U.S.C. 102(b) as being anticipated by Katz (U.S. Patent 3854184).

Katz discloses : Regarding Claim(s) 15,16, a method of disassembling a preloaded and interlocked assembly having a first element and a second element comprising: heating the first element (10) comprising an initial dimension, where the first element is part of an assembly (cylinder 10 and mandrel 13), to a first temperature sufficient to expand the initial dimension to a first dimension, the first dimension greater than the initial dimension; and removing the first element from the assembly wherein preloaded and interlocked (Fig. 7, left end portion of mandrel flange portion is interlocked with circular hub 14) assembly comprises at least one of the first element or second element being deformed, wherein the first element can only be

removed from the assembly when the first element reaches the first temperature, and wherein heating the first element from the assembly is a means to disassemble the assembly (Figs. 1-5,7; col. 3, lines 39-60; col.4, lines 37-57) ; Regarding Claim(s) 21 and 22, 1<sup>st</sup> element is fashioned from aluminum (Col. 3, line 49); and further comprises a polymer (co 1, line 12-13); Claim 25, 1<sup>st</sup> element can only be removed from assembly when the 1<sup>st</sup> element is at the 1<sup>st</sup> temperature (col. 3, lines 52-55); Regarding Claim(s) 32-34, heating the 1<sup>st</sup> element from the assembly is a means of disassembling the assembly (col. 4, lines 39-43); Regarding Claim(s) 38 and 39, a preliminary step of heating the first element and adding the heated first element to the second element so as to create the preloaded and interlocked assembly such that at least one of the first element or the second element is deformed and cooling the first element is from a first temperature to a third temperature wherein the third temperature is lower than the first temperature and the third temperature is sufficient to contract the first dimension to a lesser third dimension to interlock the assembly (col. 1, lines 18-22); Regarding Claim(s) 43-45, a method of creating or disassembling a preloaded and interlocked assembly wherein the assembly is comprised of a first element and a second element comprising: heating the first element comprising an initial dimension to a first temperature sufficient to expand the initial dimension to a first dimension, the first dimension greater than the initial dimension wherein the first dimension allows removal of the first element from the assembly thereby disassembling the assembly, or coupling of the first element and the second element thereby creating the assembly; and the method is for disassembling the assembly, wherein the method is for creating the assembly (Figs. 1-5,7; col. 3, lines 39-60; col.4, lines 37-57); Regarding Claim(s) 47-50, wherein the first element (10) comprising the third dimension contacts the second element causing mechanical interference

such that at least one of the first element or the second element is deformed to preload the assembly (col. 3, lines 39-51).

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 20,23 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katz (U.S. Patent 3854184).**

Regarding Claim(s) 20 and 23, Katz teach the limitation except the first element is a metal having has a thermal expansion coefficient of between approximately 10 micrometers per degree Celsius per meter and approximately 25 micrometers per degree Celsius per meter, but this is a matter of design choice and it would have been obvious to one of ordinary skill in the art, at the time of the invention to use material of such thermal expansion of coefficient on the method of Katz so as to enable demounting cylinder from the tube more easily.

Regarding Claim(s) 40, Katz teaches a method of disassembling a preloaded and interlocked assembly wherein the assembly is comprised of a first element and a second element comprising: heating the first element comprising an initial dimension to a first temperature sufficient to expand the initial dimension to a first dimension, the first dimension greater than the initial dimension wherein the first element and the second element are metals; and removing the first element from the assembly when the first element reaches the first temperature (Figs. 1-5,7; col. 3, lines 39-60; col.4, lines 37-57).

Katz fails to teach the first element has a thermal expansion coefficient of between approximately 10 micrometers per degree Celsius per meter and approximately 25 micrometers per degree Celsius per meter.

But this is a matter of design choice and it would have been obvious to one of ordinary skill in the art, at the time of the invention to use material of such thermal expansion of coefficient on the method of Katz so as to enable demounting cylinder from the tube more easily.

*Response to Arguments*

Applicant's arguments with respect to claims 15,16,21,22,32-34,38-39 and 43-45 have been considered but are moot in view of the new ground(s) of rejection. See the new Office action. Regarding the argument that the Katz does not describe a method to disassemble a preloaded and interlocked assembly and relies solely on frictional forces exerted between the two elements. But Katz teaches a method to disassemble a preloaded and interlocked assembly(Fig. 7, left end portion of mandrel flange portion is interlocked with circular hub 14) and relies mechanical interference to keep the assembly intact.

*Conclusion*

2. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN C. HONG whose telephone number is 571-272-4529. The examiner can normally be reached on M-F 9:00-17:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DAVID BRYANT can be reached on 571-272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JOHN C HONG/  
Primary Examiner, Art Unit 3726

Jh  
4/26/09

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